
SECTION 15190 - MECHANICAL IDENTIFICATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

1.2 DESCRIPTION OF WORK

- A. Identification requirements are in PART 3 of this specification.

1.3 QUALITY ASSURANCE

- A. Manufacturer's Qualifications: Firms regularly engaged in manufacturer of identification devices of types and sizes required, whose products have been in satisfactory use in similar service for not less than 5 years.
- B. Codes and Standards:
 - 1. ANSI Standards: Comply with ANSI A13.1 for lettering size, length of color field, colors, and viewing angles of identification devices.

1.4 SUBMITTALS

- A. Product Data: Submit manufacturer's technical product data and installation instructions for each identification material and device required.
- B. Schedules: Submit valve schedule at completion of work for each piping system, typewritten and reproduced on 8-1/2" x 11" (213mm x 280mm) bond paper. Tabulate valve number, piping system, system abbreviation (as shown on tag), location of valve (room or space), and variations for identification (if any). Mark valves which are intended for emergency shut-off and similar special uses, by special "flags", in margin of schedule. In addition to mounted copies, furnish extra copies for Maintenance Manuals as specified in Division 1.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

- A. Manufacturer: Subject to compliance with requirements, provide mechanical identification materials of one of the following or approved equal:
 - 1. Allen Systems, Inc.
 - 2. Brady (W.H.) Co.; Signmark Div.
 - 3. Industrial Safety Supply Co., Inc.

BLACKFEET COMMUNITY HOSPITAL
Expansion & Renovation, Phases 1 & 2
Browning, Montana

C168
102-96-0005
BI7BF079H7

4. Seton Name Plate Corp.



2.2 MECHANICAL IDENTIFICATION MATERIALS

- A. General: Provide manufacturer's standard products of categories and types required for each application as referenced in other Division-15 sections. Where more than single type is specified for application, selection is Contractor's option, but provide single selection for each product category.

2.3 PLASTIC PIPE MARKERS

- A. Small Pipes: For external diameters less than 6" (150mm)(including insulation if any), provide full-band pipe markers, extending 360 degrees around pipe at each location, fastened by one of the following methods:
1. Snap-on application of pre-tensioned semi-rigid plastic pipe marker.
 2. Taped to pipe (or insulation) with color-coded plastic adhesive tape, not less than 3/4" (19mm) wide; full circle at both ends of pipe marker, tape lapped 1-1/2" (40mm).
- B. Large Pipes: For external diameters of 6" (150mm) and larger (including insulation if any), provide either full-band or strip-type pipe markers, but not narrower than 3 times letter height (and of required length), fastened by one of the following methods:
1. Taped to pipe (or insulation) with color-coded plastic adhesive tape, not less than 1-1/2" (40mm) wide; full circle at both ends of pipe marker, tape lapped 3" (75mm).
 2. Strapped-to-pipe (or insulation) application of semi-rigid type, with manufacturer's standard stainless steel bands.
- A. Lettering: Manufacturer's standard pre-printed nomenclature which best describes piping system in each instance.
1. Arrows: Print each pipe marker with arrows indicating direction of flow, either integrally with piping system service lettering (to accommodate both directions), or as a separate unit of plastic.

2.4 PLASTIC TAPE

- A. General: Provide manufacturer's standard color-coded pressure-sensitive (self-adhesive) vinyl tape, not less than 3 mils (.08mm) thick.
- B. Width: Provide 1-1/2" (40mm) wide tape markers on pipes with outside diameters (including insulation, if any) of less than 6" (150mm) , 2-1/2" (65mm) wide tape for larger pipes.
- C. Color: Comply with ANSI A13.1, except where another color selection is indicated.

2.5 VALVE TAGS

- A. Brass Valve Tags: Provide 19-gage (1mm) polished brass valve tags with

stamp-engraved piping system abbreviation in 1/4" (6mm) high letters and sequenced valve numbers 1/2" (13mm) high, and with 5/32" (4mm) hole for fastener.

1. Provide 1-1/2" (40mm) diameter tags, except as otherwise indicated.
- B. Valve Tag Fasteners: Provide manufacturer's standard brass, nickel or chrome plated chain (wire link or beaded type), or solid brass S-hooks of the sizes required for proper attachment of tags to valves, and manufactured specifically for that purpose.

2.6 VALVE SCHEDULE FRAMES

- A. General: For each page of valve schedule, provide glazed display frame, with screws for removable mounting on masonry walls. Provide frames of finished hardwood or extruded aluminum, with SSB-grade sheet glass.

2.7 ENGRAVED PLASTIC-LAMINATE SIGNS

- A. General: Provide engraving stock melamine plastic laminate, complying with FS L-P-387, in the sizes and thicknesses indicated, engraved with engraver's standard letter style of sizes and wording indicated, black with white core (letter color) except as otherwise indicated, punched for mechanical fastening except where adhesive mounting is necessary because of substrate.
- B. Thickness: 1/16" (2mm) for units up to 20 sq. in. (129 sq. cm) or 8" (200mm) length; 1/8" (3mm) for larger units.
- C. Fasteners: Self-tapping stainless steel screws, except contact-type permanent adhesive where screws cannot or should not penetrate the substrate.

2.8 LETTERING AND GRAPHICS

- A. General: Coordinate names, abbreviations and other designations used in mechanical identification work, with corresponding designations shown, specified or schedule. Provide numbers, lettering, and wording as indicated or, if not otherwise indicated, as recommended by manufacturers or as required for proper identification and operation/maintenance of mechanical systems and equipment.
 1. Multiple Systems: Where multiple systems of same generic name are shown and specified, provide identification which indicates individual system number as well as service (as examples: Boiler No. 3, Air Supply No. 1H, Standpipe F12).

PART 3 - EXECUTION

3.1 GENERAL INSTALLATION REQUIREMENTS

- A. Coordination: Where identification is to be applied to surfaces which

require insulation, painting or other covering or finish, including valve tags in finished mechanical spaces, install identification after completion of covering and painting. Install identification prior to installation of acoustical ceilings and similar removable concealment.

3.2 PIPING SYSTEM IDENTIFICATION

- A. General: Install pipe markers of one of the following types on each piping system and include arrows to show normal direction of flow: (no identification required on sanitary waste and vent piping)
 - 1. Plastic pipe markers, with application system as indicated under "Materials" in this section. Install on pipe insulation segment where required for hot non-insulated pipes.
- B. Locate pipe markers as follows wherever piping is exposed to view in occupied spaces, machine rooms, accessible maintenance spaces (shafts, tunnels, plenums) and exterior non-concealed locations.
 - 1. Near each valve and control device.
 - 2. Near each branch, excluding short take-offs for fixtures and terminal units; mark each pipe at branch, where there could be question of flow pattern.
 - 3. Near locations where pipes pass through walls or floors/ ceilings, or enter non-accessible enclosures.
 - 4. At access doors, manholes and similar access points which permit view of concealed piping.
 - 5. Near major equipment items and other points of origination and termination.
 - 6. Spaced intermediately at maximum spacing of 50' (15000mm) along each piping run, except reduce spacing to 25' (7500mm) in congested areas of piping and equipment.

3.3 VALVE IDENTIFICATION

- A. General: Provide valve tag on every valve, cock and control device in each piping system; exclude check valves, valves within factory-fabricated equipment units, plumbing fixture faucets, convenience and lawn-watering hose bibs, and shut-off valves at plumbing fixtures, HVAC terminal devices and similar rough-in connections of end-use fixtures and units. List each tagged valve in valve schedule for each piping system.
- B. Mount valve schedule frames and schedules in machine rooms where indicated or, if not otherwise indicated, where directed by Owner.

3.4 MECHANICAL EQUIPMENT IDENTIFICATION

- A. General: Install engraved plastic laminate sign or plastic equipment marker on or near each major item of mechanical equipment and each operational device, as specified herein if not otherwise specified for each item or device. Provide signs for the following general categories of equipment and operational devices of sizes listed:
 - 1. Pumps, compressors - 4" x 2" (100mm x 50mm).

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- 2. Fans, etc., above ceilings - 1-1/2" x 3/4" (40mm x 19mm) attached to ceiling grid.
 - 3. Fans, HVAC central-station units, and zone air handling units - 4" x 2" (100mm x 50mm).
 - 4. Air Cooled Chiller - 4" x 2" (100mm x 50mm).
- B. Optional Sign Types: Where lettering larger than 1" (25mm) height is needed for proper identification, because of distance from normal location of required identification, stenciled signs may be provided in lieu of engraved plastic, at Contractor's option.
- C. Lettering Size: Minimum 1/4" (6mm) high lettering for name of unit where viewing distance is less than 2'-0" (600mm), 1/2" (13mm) high for distances up to 6'-0" (1800mm), and proportionately larger lettering for greater distances. Provide secondary lettering of 2/3 to 3/4 of size of the principal lettering.
- D. Text of Signs: In addition to name of identified unit, provide lettering to distinguish between multiple units, inform operator of operational requirements, indicate safety and emergency precautions, and warn of hazards and improper operations.

3.5 ADJUSTING AND CLEANING

- A. Adjusting: Relocate any mechanical identification device which has become visually blocked by work of this division or other divisions.
- B. Cleaning: Clean face of identification devices, and glass frames of valve charts.

END OF SECTION 15190